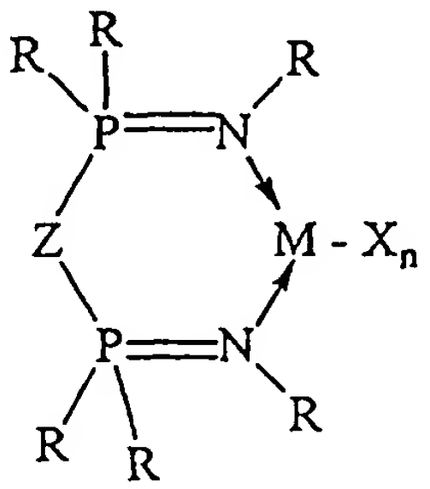
IN THE CLAIMS:

Cancel claims 1-19 and substitute therefore the following new claims:

20. A transition metal complex having the formula



FORMULA I

wherein M is Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III] or Ru[IV]; X represents an atom or group covalently or inonically bonded to the transition metal M;

R is independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl;

Z is a bridging group comprising a donor atom of N, P or S or alternatively is a neutral group comprising a C_{1-4} alkylene group, a silyl or germyl group, and

n = an integer to satisfy the valency of M.

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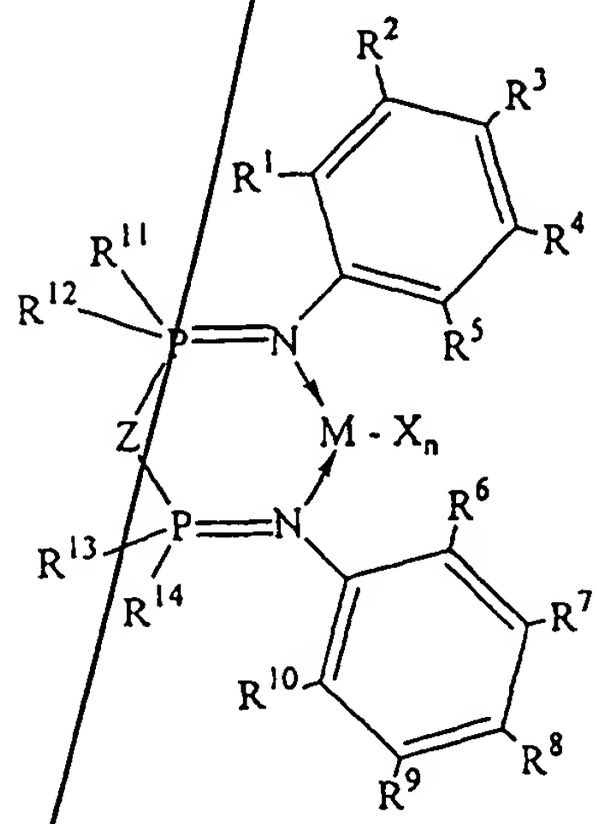
21. A transition metal complex having the formula:



wherein M is Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III] or Ru[IV]; X represents an atom or group covalently or inonically bonded to the transition metal M; Z is a bridging group comprising a donor atom of N, P or S or alternatively is a neutral group comprising a C_{1-4} alkylene group, a silyl or germyl group, R^1-R^{14} are independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl, and

n = an integer to satisfy the valency of M.

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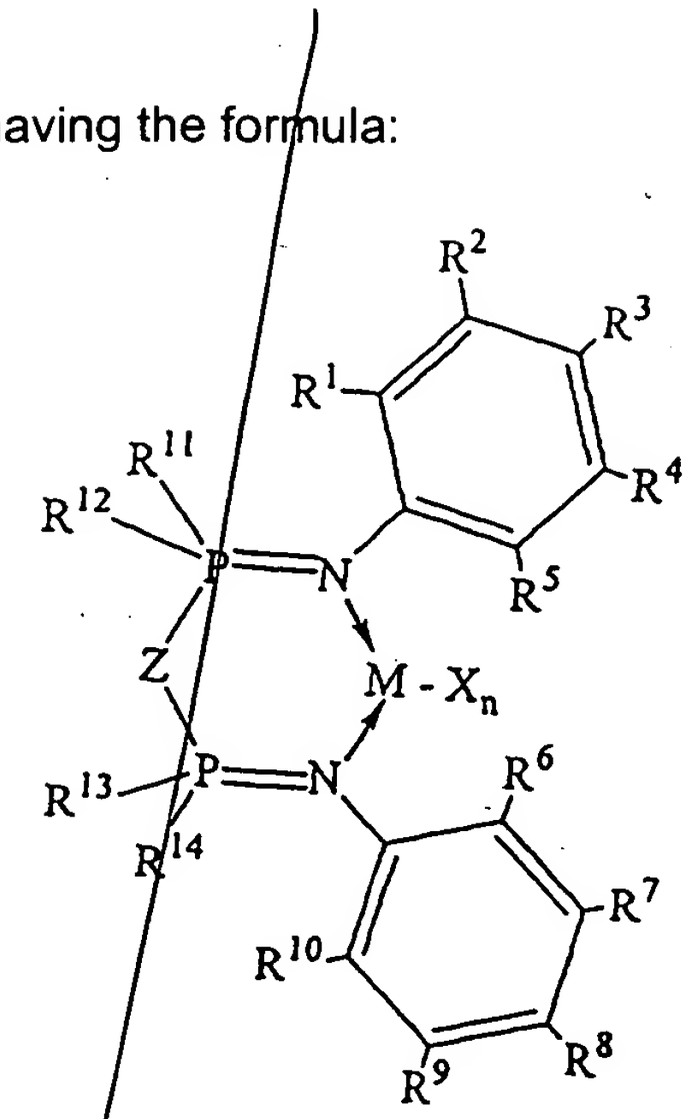
22. A complex having the formula:



wherein M is Fe[II], Fe[III], Ni[II], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III], Ru[IV], Pd[II], V[III], V[IV] or V[V];

X represents an atom or group covalently or inonically bonded to the transition metal M;

Z is a bridging group comprising a donor atom of N, P or S or alternatively is a neutral group comprising a C_{1-4} alkylene group, a silyl or germyl group,

R^1-R^{14} are independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, or substituted heterohydrocarbyl, and at least one of R^1-R^{10} contains two or more carbon atoms, and

n = an integer to satisfy the valency of M.

23. The complex of claim 21 or 22 wherein R^{11}-R^{14} are phenyl, alkyl or cycloalkyl.

24. The complex of claim 20, 21, or 22 wherein the bridging group Z is $-CH_2-$ or a donor atom N.

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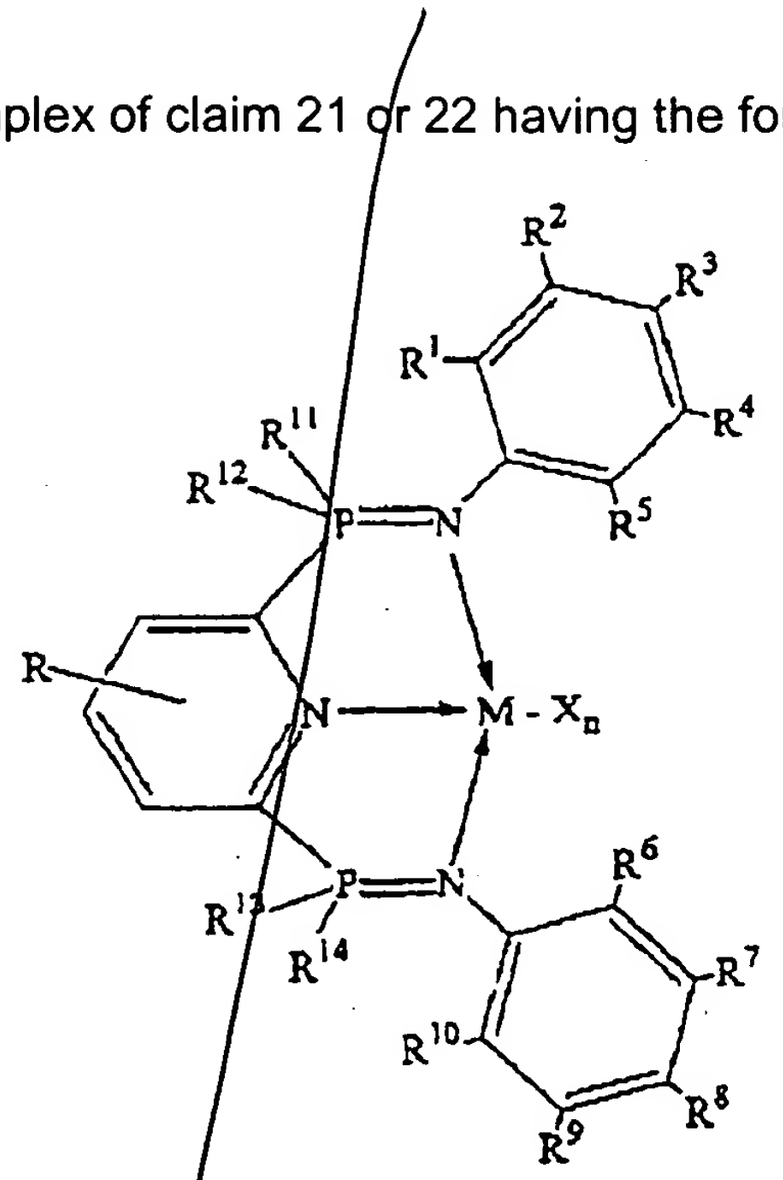
25. The complex of claim 21 or 22 having the formula



wherein R is hydrogen or hydrocarbyl.

26. The complex of claim 20, 21, or 22 wherein the metal M is Fe or Co.

27. The complex of claim 20, 21, or 22 wherein the Group X is chloride.

28. A polymerization catalyst comprising

(1) a transition metal complex as defined in claim 20, 21, or 22, and

(2) an activating quantity of an activator compound.

29. The catalyst of claim 28 wherein the activator compound is an organoaluminum compound or a hydrocarbylboron compound.

30. The catalyst of claim 28 further comprising a neutral Lewis base.

31. The catalyst of claim 28 further comprising a support.

32. The catalyst of claim 31 wherein the support is silica, alumina, or zirconia or is a polymer or prepolymer.

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